

REMARKS

Reconsideration of this application, as amended, is respectfully requested.

The label for step 124 in figure 3 has been corrected as requested in the Office Action. The objection to the drawings is therefore moot.

The specification has been amended to provide the written description for claims 3 and 7 reciting the second cross-section being about half of the first cross-section. Inasmuch as this subject matter was originally recited in the claims at the time of filing, not new matter is being introduced by these amendments. The objection to the specification is therefore moot.

The semicolon in line 6 of claim 5 has been deleted. Therefore, the object to claim 5 is now moot.

Claim 9 has been cancelled, hence, the rejections of claim 9 are now moot.

Claim 1 has been amended to recite removing the intermediate layer after the pattern has been printed. Support for these amendments is found in the specification as filed, for example at paragraph 21. No new matter is being added.

The present claims are patentable over Fukuda, US Patent 4904569. First, the “reversible transmission film” described by Fukuda is not necessarily a saturable absorber. The Examiner concludes that because “the transparency of the reversible transmission film depends upon the quantity of exposure light”, the reversible exposure film must exhibit the same qualities as a saturable absorber. This is not necessarily true. It is unclear from Fukuda’s description just what the phrase “quantity of light” means. It may, in fact, be a temporal measure of light incident on a film over a particular time period. If so, this is not describing a characteristic that depends on light intensity (as is the case with a saturable absorber). Hence, one cannot conclude that Fukuda’s reversible transmission film is equivalent to the claimed saturable absorber.

Second, the reversible transmission layer of Fukuda is limited to enhancing the contrast of a pattern printed on a photoresist layer and does not affect the cross section of a beam. In contrast, the saturable absorber of the present claims allows only a portion of a beam to

propagate towards a radiation sensitive layer; where that portion has a cross-section smaller than that of the beam when directed towards the saturable absorber.

The claims are further patentable over Lu, US Patent 7022452. The Office Action admits that Lu does not teach a saturable absorber and the description of the contrast enhancing layer does not necessarily suggest that it operates such that light absorption decreases with increasing light intensity. If anything, Lu indicates that light transmission increases with increasing intensity. Therefore, the claims are patentable over Lu.

If there are any additional fees due in connection with this communication, please charge Deposit Account No. 19-3140.

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P.O. Box 061080
Wacker Drive Station, Willis Tower
Chicago, IL 60606-1080
650-798-0320

Respectfully submitted,
SONNENSCHNEIN NATH & ROSENTHAL LLP
/Tarek N. Fahmi/
Tarek N. Fahmi
Reg. No. 41,402

AMENDED DRAWING SHEET SHOWING CORRECTIONS

Determining an illumination scheme in
response to the pattern

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Directing, in response to the
determination, at least one beam of
radiation having a fundamental
frequency, via a medium, towards an
intermediate layer such as to excite
at least one third harmonic beam that
propagates through at least a portion
of the intermediate layer towards a
radiation sensitive layer; whereas the
radiation sensitive layer is sensitive
to third harmonic radiation and is
substantially not sensitive to
radiation of the fundamental frequency
having a first cross-section towards
an saturable absorber such as to allow
a portion of said beam to propagate
towards a radiation sensitive layer;
wherein the portion has a second
cross-section that is smaller than the
first cross-section

124

120

FIG. 3